Mixtures Assessment and Research Program

WHAT IS THE PUBLIC HEALTH PROBLEM?

People are typically exposed to multiple chemicals through air, water, and soil. Recent National Health and Nutrition Examination Surveys (NHANES) analysis has documented that specific groups of chemicals--such as pesticides and toxic metals--are actually found in samples of blood and urine taken from populations across the United States. The Superfund Amendments and Reauthorization Act (SARA) directs the Agency for Toxic Substances and Disease Registry (ATSDR) as follows: " . . .Where feasible, such program shall seek to develop methods to determine health effects in combination with other substances with which it is commonly found."

WHAT HAS CDC ACCOMPLISHED?

- ATSDR has established a chemical mixtures research program that consists of collaborative efforts with other organizations, federal agencies, and the private sector.
- ATSDR has enhanced existing assessment methods through development of a Binary Weight of Evidence (BINWOE) method that uses all available information to estimate joint toxicity.
- Agency staff and health assessors have been trained in the methods of the joint toxic action of chemicals.
- ATSDR has published over 30 journal articles, review articles, and reports including the "Guidance Manual for Assessment of Joint Toxic Action of Chemicals."

WHAT ARE THE NEXT STEPS?

- ATSDR staff in the Mixtures Assessment and Research Program will work closely with the scientists of the Great Lakes Human Health Affects Research Program, Computational Toxicology, and the Emergency Response Team to review available data and perform analysis--applying the principles of assessment of joint toxic action--so as to evaluate any differences or inconsistencies in the conclusions or recommendations of the Mixtures Assessment and Research Program.

- The program will work closely with Centers for Disease Control and Prevention/ATSDR scientists to implement and promote the use of the "Guidance Manual for the Assessment of Joint Toxic Action of Chemical Mixtures." by ATSDR staff and the staff of state health departments.

For information on this and other CDC and ATSDR programs, visit www.cdc.gov/programs. December 2004